



By Lieutenant General William B. Caldwell, IV

Note: This article is adapted from a speech given on 23 April 2009 to attendees of ENFORCE 2009 at Fort Leonard Wood, Missouri.

Engineer history is inundated with success stories of agile and adaptive leaders contributing to our nation's progress. You are the organization that gave us the United States Military Academy, the Washington Monument, the Panama Canal, and the Pentagon, and you are in greater demand today than ever before.

The United States Army Corps of Engineers is at work in more than 90 countries, supporting 159 Army installations and 91 Air Force installations and operating 609 dams and 257 navigation lock chambers at hundreds of sites. You operate 24 percent of America's hydropower capacity. Engineers are serving as architects, ecologists, geologists, park rangers, accountants, cartographers, chemists and, most notably, as warriors.

Since 11 September 2001, approximately 70 percent of our engineer force—that's including the newest engineers that haven't even had an opportunity to deploy—have served our nation in a hostile area at least once. More than 30 percent have deployed multiple times. And it's more than just deployments...the unique, but critical, aspect of engineer life is the important and complex missions you perform daily all over the world and many in the continental United States. From the mountains of Afghanistan to the Red River in North Dakota, Army engineers are the most diverse group of selfless servants in our Army today.

Engineer versatility is illustrated in the accomplishments of the *Building Great Engineers* campaign that

includes improvements in working with accessions, improvements in the classroom, and efforts to align assignments with training and education. Engineers are "clearing the route" and "marking the lane" for all of us to move forward and meet the challenges of the 21st century—a century that is marked by the rising threat of

"Engineers are 'clearing the route' and 'marking the lane' for all of us to move forward and meet the challenges of the 21st century...."

a violent extremist movement that seeks to create anarchy and instability throughout the international system. Within this system, we also face emerging nations that are discontented with the status quo and seeking a new global balance of power. As our nation continues into this era of uncertainty and persistent conflict, the lines separating war and peace, enemy and friend, have blurred and no

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longer conform to the clear delineations we once knew.

Understanding how to operate in this complex and ever-changing environment of the 21st century is critical to the development of our leaders. This environment will require leveraging every element of our national power and includes cooperating and collaborating with nongovernmental and international organizations. As our President said during his recent announcement of a comprehensive Afghanistan strategy, “A campaign against extremism will not succeed with bullets or bombs alone...to achieve our goals we need a stronger, smarter, and comprehensive strategy.” This means that our Army has a requirement to develop leaders capable of operating effectively within this comprehensive approach.

Our country needs agile and adaptive leaders to lead us in this changing world—the 21st century (see Figure 1). The Chief of Staff of our Army has used the analogy that our force must resemble a middleweight fighter. We must be a lean, agile, and rapidly adaptive force with the endurance and knockout power to take on and defeat any opponent, regardless of weight class. By carefully studying his adversaries and with modification to the fighter’s training and diet, the middleweight can easily move between weight classes and defeat any opponent. Just as with that middleweight fighter, our Army needs to be equally versatile, equally decisive, and equally lethal.

We must understand that military force—although necessary—is not sufficient; it does not win the peace. Probably no one understands that better than you! Engineers are lethal warriors and nation builders. You have always operated across the full spectrum of conflict; you embody better than anyone else our nation’s destructive and constructive capabilities. As engineers, being agile and adaptive is already in your DNA; you get it...and it could not be more clearly illustrated than in the 4th Engineer Battalion when they just received a change of mission from Iraq to Afghanistan—after operating in Baghdad for only two weeks.

We need agile and adaptive leaders who are broad enough to handle the challenges of full spectrum operations in this era of persistent conflict. These agile and adaptive leaders must be *critical and creative thinkers*, they must be *competent and confident communicators*, and they must be *capable of operating*

Building Agile and Adaptive Leaders

▪ Agile and adaptive leaders

- Middleweight fighters
- Mental agility – flexibility of mind, a tendency to anticipate or adapt to uncertain or changing situations, staying ahead of changing environments
- Ability to meet the challenges of the 21st century and full spectrum operations in an era of persistent conflict

▪ Leaders that are:

- Critical and creative thinkers
- Competent and confident communicators
- Capable of operating with a comprehensive approach

Figure 1

Critical and Creative Thinkers

- Problem solvers who understand that answers are situationally dependent, not memorized from doctrine.
- Leaders with the critical and creative thinking skills to introduce new solutions to complex and dynamic problems.
- Thinkers who challenge assumptions and anticipate 2d and 3d order effects...ask “Why?”
- Leaders whose education focuses on how to think vs. what to think. “Break the mold” thinking – 21st century problems cannot be solved by 20th century thinking.

Figure 2

with a comprehensive approach to meet these emerging challenges. These critical attributes will enable our leaders to contend with offensive, defensive, and stability operations simultaneously...leaders who can integrate combined arms, integrate with host nation forces, and be perceptive enough to discern changes in the operational environment in order to anticipate transitions.

What do we mean by critical and creative thinkers, and how does that translate to leader development (see Figure 2)? Well, some people will tell you the glass is half full, and others will say it is half empty. But the engineer will tell you the glass is twice the size it needs to be. This is the kind of out-of-the-box thinking we need—critical and creative thinkers who are courageous enough

Competent and Confident Communicators

- Embrace a culture of engagement...develop confidence and connect with those we serve
- Cyber Savvy – capable of communicating in the information domain of the 21st century and looking at media space as maneuver space
- Strategic Communications (STRATCOM) – leader-driven as a process, not a product
- Culturally Astute – responsive to cultural issues and able to establish trust and confidence in the countries and cultures in which we operate

Figure 3

Capable of a Comprehensive Approach

- “We have learned that in the 21st century, we must use all elements of American power to achieve our objectives...” – President Obama, 27 February 2009
- Leaders must cooperate, coordinate, and collaborate across multiple agencies, both within and outside the U.S. government.
- This approach has been applied in writing doctrine, in education, and in training (FM 3-07, interagency participation at Command and General Staff College, provincial reconstruction teams at training centers)

Figure 4

to see and exploit opportunities in the challenges and complexities of the 21st century.

What good are critical and creative thinkers if they cannot communicate their ideas? Our leaders must be competent and confident communicators (see Figure 3). Competence, we know, builds confidence, which leads to capable communication. We must strengthen our leaders' ability to communicate in a wide variety of information mediums. So how do we develop competent and confident communicators?

Knowing that we will always operate in a joint, interagency, intergovernmental, and multinational (JIIM) environment makes this communication even more important. We must recognize that our leaders will not only be required to communicate across foreign cultures but also must know and understand how other

organizations operate (such as the Iraqi army, Department of State, nongovernmental organizations, private voluntary organizations, businesses, and academia). Our leaders must be capable of operating with a comprehensive approach (see Figure 4). Leaders must cooperate, coordinate, and collaborate across multiple agencies from both within and outside the U.S. government. Our leaders must be able to unite diverse groups of people and work toward a shared goal. Agile and adaptive leaders are comfortable in the complex and ambiguous environments we already face today and are going to be the combat multiplier we need in the 21st century. Engineers consistently work in these complex environments, operating with Air Force REDHORSE squadrons, Navy Seabee units, the National Geospatial Agency, the Joint Improvised Explosive Device Defeat Organization (JIEDDO), and other foreign engineer forces and civilian agencies to accomplish missions in Iraq, Afghanistan, and around the globe.

We've discussed how to develop agile and adaptive leaders and the kinds of attributes those leaders must possess to succeed in the 21st century, but what about facilitating this lifelong development in units and organizations around the Army? What about encouraging and empowering these agile and adaptive leaders? That is a real challenge of ours. To do so, we must be courageous in our approach (see Figure 5, page 11).

We build all these leader skills through education, training, and experience. We must be mindful as we move forward that we don't make the mistake of substituting experience for education. Experience is critical, as long as it is the right experience; and our training is outstanding, as long as it is the right training.

But what prepares leaders to make decisions in a complex uncertain environment is the combination of education, experience, and training. The combination of all three is what gives us our greatest versatility.

Our Army Values and the Warrior Ethos will remain the underpinning of our educational and training efforts as they prescribe conditions that facilitate trust, interdependence, and cohesion among Soldiers. They also set the standard for how our Army will interact with individuals outside of the Army. All this must be grounded in our Army Values and the Warrior Ethos—the same Army Values and Warrior Ethos epitomized by approximately 1,800 engineers that have received valorous awards for their actions in Iraq and Afghanistan. Examples of this courageous action include the following:

- Billy Zar, the captain of a debris-removal tug boat operating in Texas, reacted instinctively when his team saw a 500-gallon fuel tank floating in dangerously high water in the Industrial Canal during Hurricane Gustav. They knew that if the tank were to hit the flood wall or other important structures, there could be grave consequences. So, without hesitation, Billy courageously jumped into the water and corralled the 500-gallon tank, possibly saving countless lives and protecting property. For his actions, he was recognized by Lieutenant General Robert B. Van Antwerp, Chief of Engineers.
- Staff Sergeant Lincoln Dockery, who charged an enemy position to fight through an enemy ambush in Afghanistan. During the charge, Dockery was injured, but he kept going despite intense enemy fire that included hand grenades and incoming rocket-propelled grenades. After pushing the enemy back

Encouraging Leader Development

- **Clear focus/priorities**
- **One – make leader development your number one priority**
- **Underwrite honest mistakes**
- **Resist the tendency to centralize**
- **Accept personal risk – be the heat shield for your subordinates**
- **Give missions – leave the “how” to the individual**
- **Encourage open communications in all directions**

Figure 5

from their position, close air support was called and reported that there were more than 30 enemy fighters. For his actions, he was awarded the Silver Star.

- Sergeant First Class Paul Smith's courageous actions to defeat an enemy attack at the Baghdad International Airport resulted in as many as 50 enemy soldiers killed, while allowing the safe withdrawal of numerous wounded Soldiers. For his actions, he was awarded the Medal of Honor.

Our Soldiers are blessed with these types of leaders... courageous, selfless, serving leaders. We owe it to our nation to develop leaders of character and value...leaders who have the mental agility to anticipate and adapt to uncertain or changing situations..leaders who can integrate the tools of statecraft with our military forces, international partners, humanitarian organizations, and the private sector... leaders who can forge unity of effort among a very rich and diverse group of actors to shape a better future . . . a better tomorrow. And those leaders are sitting in this auditorium today. Each and every one of you bears this mantle of leadership. You are our most versatile force, and for more than 200 years our nation has called on you to be the most agile and adaptive element in our Army...and we will continue to do so in the 21st century.

Thank you for inviting me to be a part of ENFORCE 2009.

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